

# ORTHOPTERA

## FAM. EUMASTACIDÆ

by MALCOLM BURR

WITH 1 COLOURED PLATE



THE *Eumastacidae* are a small family (1) of grasshoppers, practically confined to the tropical regions of the earth, of various forms, but always peculiar. It is extremely difficult to frame a diagnosis which embraces all the genera without exception; the old character to which so much importance was rightly attached, namely, the extreme shortness of the antennæ, is not universal, for a genus has recently been discovered having antennæ extremely long for an Acridian family, and clavate at the apex, which is of the greatest rarity in Orthoptera; and if we include the curious genus *Pseudnura* in the family, again we find the antennæ somewhat longer, but they are triquetre, and strongly serrated, a form of antenna which is abnormal in the Orthoptera.

Perhaps they may best be defined, as « Grasshoppers of small size, with the antennæ shorter than the anterior femora (except in the genus *Gomphomastax*, in which they are long and clubbed, and *Pseudnura*, in which they are stout, strongly tri-marginate and serrated), the head short, with the face compressed and flattened, the body small and short, the pronotum either strongly laterally compressed and elevated (as in certain *Tettigidae*), or flattened and very small. »

Until the discovery of the two genera mentioned above, the family was clearly defined, but yet these two genera must be admitted, *Gomphomastax* especially being in every other particular allied to *Erycius*; we include *Pseudnura* mainly on account of its peculiar form, for all *Eumastacidae* are more or less abnormal, though perhaps it forms a link with the *Truxalida*.

The *Eumastacidae*, together with the *Pneumoridae* and *Proscopiidae* form a group to themselves, analogous in many respects, but yet having no definite all-embracing character.

I have thus defined them in an earlier article upon the family: « Tribus *Acridiolarum*: statura minore vel mediocri; unguis tarsorum arolio instructi; caput breve, ab antico compressum: prosternum

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(1) 134 species have been described.

muticum; corpus nec inflatum nec valde elongatum; segmentum primum abdominis tympano nullo instructo; antennæ brevissimæ, femoribus anticis brevioribus, cylindricis, generibus duobus exceptis *Gomphomastace* et *Pseudura*; apud *Gomphomastacem*, antennæ longiores, interdum abdomen superantes, apice clavatæ; apud *Pseuduram*, breves, valde triquetræ, marginibus tribus valde serratis. »

Stal was the first to separate the *Choroetypidæ* and *Mastacidæ* from the main body of *Acriliodæa*, ranking each as a family; he regarded them, together with the *Pneumoridae* and *Proscopiidae*, as a group apart, approaching the *Tettigidæ*; he was the first also to define the leading genera, including *Erianthus*, *Erucius* and *Thericles*, of his own erection.

Karsch, in 1889, reviewed the two families, still keeping them distinct, and added several genera, mostly African.

In his Revision of the Orthoptera, in 1893, Brunner drew up the first complete table of genera, and united the *Choroetypi* and *Mastaces* into a single family under the name *Mastacidae*; in 1898 he revised the Asiatic forms, and erected some new genera near *Choroetypus*.

The name *Mastax* being præoccupied in Coleoptera, in 1899 I altered it to *Eumastax*, in my *Essai sur les Eumastacides* (An. Soc. Esp. Hist. Nat. Vol. 28, 1899), in which I adopted Brunner's arrangement, with a few modifications, and included the recently described species, adding a number that were hitherto unknown. Then first I subdivided Brunner's group *Mastaces* into smaller divisions, around the typical genera *Erucius*, *Eumastax*, and *Thericles*, and in the same way separated *Erianthus* from *Choroetypus*. Quite recently, de Saussure has modified the classification in adding a number of new species and several new genera.

#### TABLE OF SUBFAMILIES

1. — Antennæ cylindricæ.
  2. — *Costa frontalis inter antennas plus minus dilatata et deplanata.*
  3. — *Pronotum acute tectiforme, foliaceum, valde compressum; femora postica dilatata et compressa.* . . . . . Subfam. CHOROETYPINÆ.
  - 3.3. — *Pronotum dorso deplanatum; femora postica haud dilatata.* . . . Subfam. ERIANTHINÆ.
  - 2.2. — *Costa frontalis angusta, profunde sulcata. (Pronotum nunquam foliaceum, subcompressum).*
    3. — *Antennæ longitudinem femorum anticorum dimidiam attingentes vel superantes, multiarticulatæ, apice plus minus clavatae.* . . . Subfam. GOMPHOMASTACINÆ.
    - 3.3. — *Antennæ femoribus anticis breviores, haud clavatae.*
    4. — *Metatarsus posticus supra in utroque margine spinulosus vel serratus*
    5. — *Fastigium verticis obtusum, haud acuminatum; species orientales.* . . . Subfam. ERUCINÆ.
    - 5.5. — *Fastigium verticis acutum; species americanæ.* . . . . . Subfam. EPISACTINÆ.
      4. — *Metatarsus posticus supra muticus.*
      5. — *Tibiæ anticæ subtus in parte apicalis spinulosæ.*
      6. — *Statura robusta, valida; tibiæ posticæ spinis 8 (longitudine haud alternantibus) armatæ.* . . . . . Subfam. THAUMASTACINÆ.
      - 6.6. — *Statura gracili; tibiæ posticæ spinulis plurimis armatæ.*
      7. — *Tibiæ posticæ spinulis longitudine aquantibus (genus *Biroella Bolivar* excepta) armatæ. Habitat in Asia.* . . . . . Subfam. CHININÆ.
      - 7.7. — *Tibiæ posticæ spinulis longitudine alternantibus (excepto genus *Morsea*) armatæ. Habitat in America.* . . . . . Subfam. EUMASTACINÆ.
      - 5.5. — *Tibiæ anticæ inermes vel hirsutæ. (Pedes minus graciles; habitat in Africa et Madagassa)* . . . . . Subfam. THERICLEINÆ.

- 1.1. — Antennæ triquetræ, serratæ. (Corpus apterum.)  
 2. — *Fastigium verticis horizontaliter productum, rotundato-acuminatum; tibiæ posticæ supra in utroque margine spinulis minimis multis armatæ. Abdomen haud appendiculatum. (Habitat in regione australica.)* . Subfam. PSEDNURINÆ.  
 2.2. — *Fastigium verticis oblique productum, apice bifidum. Tibiæ posticæ supra spinis robustis compressis armatæ; abdomen appendiculatum. (Habitat Madagassa.)* . . . . . Subfam. MIRACULINÆ.

## I. SUBFAM. CHOROETYPINÆ, BURR

**Choroetypinæ.** Stal, Öfv. Vet. Akad. Förh. n° 3, p. 54 (1876).

**Choroetypiden.** Karsch, Ent. Nachr. Vol. 15, p. 7 (1889).

**Choroetypi.** Brunner, Rev. Orth. p. 114 (1893); Burr, Essai Eumast. p. 21 (1899).

**Characters.** — Pronotum acute tectiforme, lateraliter valde compressum; femora postica dilatata et compressa.

### TABLE OF GENERA

1. — *Elytra et alae perfecte explicatæ; femora antica compressa. (Genus PHAULOTYPUS elytris alisque nullis in hanc divisionem locandum)* . . . . .  
 2. — *Pronotum latere vena longitudinali percurrenti et ramis obliquis præditum. Frons sublævis. Species sundaicæ et ceylonicæ* . . . . .  
 3. — *Tibiæ posticæ lobatæ. (Elytra apice truncata; alæ caudatæ)* . . . . . 1. CHOROETYPUS, Serville.  
 3.3. — *Tibiæ posticæ haud lobatæ. (Elytra apice rotundata, raro oblique truncata.) Alæ haud caudatæ* . . . . . 2. PHYLLOCHOREIA, Westwood.  
 2.2. — *Pronotum uniformiter punctis elevatis rugosum. (Frons latior)* . . . . .  
 3. — *Pronotum brevius quam altitudo capitis. Elytra apice oblique truncata. Pronotum fastigium liberans* . . . . . 3. SCIRTOTYPUS, Brunner.  
 3.3. — *Pronotum longius quam altitudo capitis. Elytra, quum adsunt, lanceolata.*  
 4. — *Pronotum fastigium verticis obtegens. Tibiæ posticæ lobatæ* . . . . . 4. ORCHETYPUS, Brunner.  
 4.4. — *Pronotum fastigium verticis liberans. Tibiæ posticæ haud lobatæ (Elytra et alæ nullæ)* . . . . . 5. PHAULOTYPUS, Burr.  
 1.1. — *Elytra et alæ nullæ. Femora antica teretia. Species africanæ* . . . . .  
 2. — *Pronotum altius quam longius, mesonotum liberans, margine postico arcuato* . . . . . 7. BRACHYTYPUS, nov. gen.  
 2.2. — *Pronotum longius quam altius, antice et postice supra corpus productum, margine postico recto, meso- et metanotum obtegens.* . . . . . 6. PLAGIOTRIPTUS, Karsch.

## I. GENUS CHOROETYPUS, SERVILLE

**Choroetypus.** Serville, Hist. Nat. Orth. p. 751 (1839); Haan, Bijdr. Orth. p. 164 (1843); Stal, Öfv. Akad. Förh. n° 3, p. 54 (1876); Karsch, Ent. Nachr. Vol. 15, p. 7 (1889); Brunner, Rev. Orth. p. 115 (1883); Senck, Naturf. Ges. Bd. 24, Heft. 2, p. 216 (1898); Burr, Essai Eumast. p. 22 (1899).

**Phyllochoreia.** Walker, Cat. Derm. Salt. Vol. 4, p. 797 (1870).

**Characters.** — Colore castaneo; caput perpendiculare. Frons deplanata, sublævis, vel dense granulata. Vertex elevatus, apicem versus angustatus, in apice ipso emarginato-truncatus. Antennæ

brevissimæ. Pronotum tectiforme compressum, caput obtegens, postice acuminatum, et supra elytra productum, in latere vena longitudinaliter percurrente ramos nonnullos obliquos emittenti. Elytra coriacea, apicem versus latiora, oblique truncata. Alæ angustæ, acuminatæ, elytra superantes. Femora omnia compressa et dilatata, postica superne et subtus serrulata. Tibiæ posticæ superne pone basin lobatæ. Metatarsus posticus superne carinatus. Segmentum abdominale penultimum ♂ lobo erecto ornatum. Lamina subgenitalis ♂ elongato-cucullata, acuminata. Ovipositor gracilis, valvulis inferioribus denticulatis. ♂ ♀.

**Geographical distribution of species.** — This genus contains seven species, distributed through the Oriental Region :

1. *C. fenestratus*, Serville, Hist. Nat. Orth. p. 753 (1839) (India).
2. *C. haani*, Brunner, Senck. Naturf. Ges. Bd. 24, Heft 2, p. 218 (1898) (Borneo).
3. *C. biemarginatus*, Brunner, idem, p. 218 (1898) (Java).
4. *C. pusillus*, Brunner, ibidem, p. 219 (1898) (Java).
5. *C. gallinaceus*, Fabricius, Ent. Syst. Vol. 2, p. 48 (1793) (Borneo, Java, Labuan).
6. *C. mutilatus*, Brunner, Senck. Naturf. Ges. Bd. 14, Heft. 2, p. 219 (1898) (Borneo, Java).
7. *C. monachus*, Brunner, idem, p. 219 (1898) (Borneo).

## 2. GENUS PHYLLOCHOREIA, WESTWOOD

**Phyllochoreia.** Westwood, Charlesworth's Mag. Nat. Hist. Vol. 3, p. 495 (1839); Burr, Essai Eumast. p. 24 & 87 (1899).

**Choroetypus.** Brunner, Senck. Naturf. Ges. Bd. 24, Heft 2, p. 219 (1898).

**Characters.** — A genere præcedenti tantum differt, elytris apice haud oblique truncatis, tibiis posticis haud lobatis.

**Geographical distribution of species.** — Southern India and Ceylon :

1. *P. unicolor*, Westwood, Charlesw. Mag. Nat. Hist. Vol. 3, p. 495 (1839) (Malabar).
2. *P. equa*, Burr, Essai Eumast. p. 87 (1899) (Ceylon).
3. *P. asina*, Burr, idem, p. 88 (1899) (Ceylon).
4. *P. ? sulcata*, Saussure, Rev. Suisse Zool. Vol. 11, p. 59 (1903) (India ?).

## 3. GENUS SCIRTOTYPUS, BRUNNER

**Scirtotypus.** Brunner, Senck. Naturf. Ges. Bd. 24, Heft 2, p. 220 (1898); Burr, Essai Eumast. p. 25 (1899).

**Characters.** — Fastigium verticis obtusum, sed occiput pone fastigium elevatum, obtuse acuminatum et carinatum. Frons lata, rugosissima. Pronotum dense granulose, quam altitudo capitis brevius, crista elevata, serrulata. Elytra apicem versus latiora, oblique truncata. Alæ elytris breviores. Femora omnia valde compressa et dilatata, postica superne serrata. Tibiæ posticæ superne spinis majoribus armatæ, et pone basin lobo triangulari magno ornatæ, Ovipositor valvulis lævibus.

This genus forms the transition from *Choroetypus* to *Orchetypus* Brunner (vide infra).

**Geographical distribution of species.** — Borneo, Ceylon and West Africa.

1. *S. aberrans*, Brunner, Senck. Naturf. Ges. Bd. 24, Heft 2, p. 221, f. 27 (1898) (Borneo).
2. *S. curtithorax*, Karsch, Ent. Nachr. Vol. 16, p. 258 (1891) (West Africa, Kribi).
3. *S. Greeni*, Burr, Essai Eumast. p. 26 (1899) (Ceylon).
4. *S. Finoti*, Saussure, Rev. Suisse Zool. Vol. 11, p. 74 (1903) (Gaboon).

#### 4. GENUS ORCHETYPUS, BRUNNER

**Orchetypus.** Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 220 (1898); Burr, Essai Eumast. p. 27 (1899).

**Characters.** — Cum generibus præcedentibus congruit, exceptis : fronte rugosa, pronoto ruguloso, venis abortivis nonnullis prædito, elytris lanceolatis, alis elytra superantibus. Ovipositor valvulis inferioribus serrulatis. Species ceylonicæ.

**Geographical distribution of species.** — The three known species are found in Ceylon.

1. *O. rotundatus*, Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 221 (1898) (Ceylon).
2. *O. subtruncatus*, Brunner, idem (1898) (Ceylon).
3. *O. ceylonicus*, Karsch, Ent. Nachr. Bd. 15, p. 8 (1889) (Ceylon).

#### 5. GENUS PHAULOTYPUS, BURR

**Phaulotypus.** Burr, Essai Eumast. p. 89 (1899); Bull. Liverp. Mus. Vol. 2, n° 2, p. 44 (1899).

**Characters.** — Frons granulata. Pronotum caput haud obtegens, compressum, elevatum, antice et postice acuminatum, postice valde productum, crista margine superiori æqualiter rotundata, venis nullis instructum, totum granulatum. Femora antica et intermedia compressa nec dilatata; femora postica valde compressa et dilatata, crista superiori denticulata, lobis genicularibus acuminatis. Tibiæ posticæ curvatæ, haud lobatæ, calcaribus terminalibus margine externo nullis, vel ægre distinguendis, margine interno binis, quorum hoc magnum, illud parvum. Metatarsus posticus margine externo minutissime crenulatus ♂. ♀ ignota.

**Geographical distribution of species.** — The only known species occurs in the Island of Sokotra.

1. *P. Granti*, Burr, Bull. Liverp. Mus. Vol. 2, n° 2, p. 44 (1899) (Island of Sokotra).

#### 6. GENUS PLAGIOTRIPTUS, KARSCH

**Plagiotriptus.** Karsch, Ent. Nachr. Vol. 15, p. 8 (1889); Brunner, Rev. Orth. p. 115 (1893) Burr, Essai Eumast. p. 27 (1899).

**Choroetypus.** Gerstæcker, Decken's Reise in Ost-Afrika, Vol. 3, 2. Abth. Gliederthiere. Ins. p. 42, pl. 2, f. 8 (1873).

**Characters.** — Compressa. Frons perpendiculare, plus minusve deplanata, medio sulcata; antennæ brevissimæ; fastigium verticis inter antennæ verticale, acutum. Pronotum magnum, cristato-elevatum, arcuatum, postice productum. Mesosternum margine antico rotundato; prosternum bilobatum. Elytra et alae abortiva, condita. Femora antica teretia, nec compressa nec dilatata. Femora postica valde compressa, dilatata, carina superiori denticulata. Tibiæ omnes haud dilatatæ; Metatarsus posticus lævis, haud denticulatus. Lamina subgenitalis obtusa. Valvulæ ovipositoris breves.

**Geographical distribution of species.** — East Africa.

1. *P. hippiscus*, Gerstæcker, Decken's Reise in Ost-Afrika, Vol. 3, 2. Abth. Gliederthiere. Ins. p. 42, pl. 2, f. 8 (1873) (East Africa, Mombassa, Zanzibar, Ndara, Kilimandjaro, Sambura, Kondoa, etc.).

#### 7. GENUS BRACHYTYPUS, NOV. GEN.

**Plagiotriptus.** Burr, Essai Eumast. p. 29 & 88 (1899); gen. nov. Saussure, Rev. Suisse Zool. Vol. 11, p. 49 (1903).

**Characters.** — Generi *Plagiotripto* vicinum; corpus apterum vel subapterum; pronotum modice longum, margine postico recto vel arcuato, altius quam longius, mesonotum liberans, margine postico arcuato; mesonotum grande, elevatum, carinatum. Caput superne rotundatum; femora postica anguste cristata; crista haud dilatata; tibiæ posticæ dentatæ.

**Geographical distribution of species.** — Africa.

1. *B. rotundifrons*, Burr, Essai Eumast. p. 29, pl. 8, f. 1 (1899) (Mombassa).
2. *B. insularis*, Burr, Bull. Liverp. Mus. Vol. 2, p. 44 (1899) (Sokotra).

## 2. SUBFAM. ERIANTHINÆ, BURR

**Erianthina.** Karsch, Ent. Nachr. Vol. 15, p. 27 (1889).

**Mastaces** (partim). Brunner, Rev. Orth. p. 115 (1893).

**Erianthi.** Burr, Essai Eumast. p. 19 and 29 (1899).

**Characters.** — Costa frontalis angusta, profunde sulcata. Pronotum supra deplanatum, haud elevatum. Metatarsus posticus in utroque margine spinulosus vel serratus; alæ, quum adsunt, haud caudatæ. Costa frontalis inter antennas plus minusve dilatata et deplanata.

### TABLE OF GENERA

1. — Fastigium verticis erectum.
  2. — *Elytra et alæ perfecte explicatæ (Species mundi antiqui)*
  - 3.3. — *Pronotum sellæforme; tibiæ posticæ lobo instructæ; lamina infragenitalis grandis, obtusa; titillatores graciles, longi, valde compressi, ad inferum curvati.* . . . 1. HEMIERIANTHUS, SAUSSURE.
  3. — *Pronotum a latere excavatum; tibiæ posticæ haud lobatæ; lamina infragenitalis minuta, acuta; titillatores crassi, corni, ad superum curvati, valde torticulati, apice foliacei* . . . . . 2. ERIANTHUS, STÅL.
  - 2.2. — *Corpus apterum (Species americana).* . . . . . 3. TEICHOPHRYS, MOISE & BRUNER.
- 1.1. — Fastigium verticis horizontaliter productum.
  2. — *Elytra et alæ nullæ.* . . . . . 4. ADRAPETES, KARSCH.
  - 2.2. — *Elytra et alæ perfecte explicatæ* . . . . .
  3. — *Alæ cycloideæ* . . . . . 5. EUPATRIDES, BRUNNER.
  - 3.3. — *Alæ normales* . . . . . 6. BENNIA, BURR.

## I. GENUS HEMIERIANTHUS, SAUSSURE

**Hemierianthus.** Saussure, Zool. Anz. Bd. 26, n° 698-699, p. 412 (1903), Rev. Suisse Zool. Vol. 11, p. 75 (1903).

**Characters.** — Habitus generis *Erianthi*. Costa facialis subangusta, inter antennas ovata, foveolata, elevato-marginata. Frontis processus elongatus. Oculi ♂ grandes, elliptici, valde tumidi.

Pronotum a latere sellæforme. Elytra angusta, parallela, apice rotundata. Alæ apice obtusissimæ, elongato-cycloideæ. Femora antica subtus margine interno lamellari. Femora postica gracilia, apice mucronati. Tibiæ posticæ basi lobo trigonali instructæ, extus minute dentatæ, intus spinulosæ; spinulis in utroque margine per pares exsertæ, alternatim inæquales. Metatarsus margine externo spinuloso. Abdomen gracile, segmentis primis superne carinatis ♂.

**Geographical distribution of species.** — The two known species are found in Gaboon.

1. *H. gabonicus*, Saussure, Zool. Anz. Vol. 16, n<sup>o</sup> 698, p. 412; Rev. Suisse Zool. Vol. 11, p. 76 (1903) (Gaboon).
2. *H. camerunensis*, Bolivar, Bol. Soc. Esp. Hist. Nat. p. 301 (1903) (Cameroon).

## 2. GENUS ERIANTHUS, STÅL

**Erianthus.** Stal, Öfv. Vet. Akad. Förh. n<sup>o</sup> 3, p. 55 (1876); Karsch, Nachr. Vol. 15, p. 29 (1889); Brunner, Rev. Orth. p. 115, 116 (1893); Senck. Naturg. Ges. Bd. 24. Heft 2, p. 221 (1898); Burr, Essai Eumast. p. 29 (1899).

**Mastax.** Westwood, Arcana Ent. Vol. 1, p. 100 (1841), Vol. 2, p. 54, note (1843).

**Characters.** — Fastigium verticis erectum, acuminatum, et apice (a latere visum leviter) reflexum vel rectum, obtusum. Frons plana, rugosa, costa inter antennis dilatata et deplanata. Pronotum subsellæforme, medio longitudinaliter carinatum. Elytra angusta, apicem versus latiora, remote reticulata et plus minus pellucida. Alæ triangulares (haud cycloideae), subhyalinæ. Femora omnia compressa, superne carinata. Femora antica subtus sulcata, carina exteriore dilatata, in dentem præapicalem terminata. Femora postica gracilia, superne carina media serrulata, apice in dentem producta, subtus carinis integris. Tibiæ posticæ superne in utroque margine spinulis æque longis armatæ, in carina interna numero 15-20, in carina externa, 25. Metatarsus posticus supra sulcatus, carina exteriore dentata. Segmentum abdominale penultimum ♂ amplum, emarginatum, latere in lobos plus minus deplanatos productum. Lamina supraanalis bilobata. Cerci basi crassi, medio angustati et angulo acuto inflexi. Lamina subgenitalis tota oblitterata. Titillator robustus, liber. Penis angustus, apice truncatus. Ovipositor gracilis, serrulatus et granulatus.

**Geographical distribution of species.** — All the known species are confined to the tropical parts of Asia, and Northern parts of the Australian Region.

1. *E. erectus*, Karsch, Ent. Nachr. Vol. 15, p. 29 (1889) (Philippine Islands).
2. *E. guttatus*, Westwood, Arc. Ent. Vol. 1, p. 100, pl. 26, f. 3 (1841) (Sumatra, Philippine Islands).
3. *E. flavoinflatus*, Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 223 (1898) (Philippine Islands).
4. *E. versicolor*, Brunner, idem, p. 224, f. 30 (Cambodia).
5. *E. lugubris*, Brunner, ibidem, p. 225 (? China, Sikkim).
6. *E. obtusus*, Burr, Essai Eumast. p. 30 (1899) (Borneo).
7. *E. defloratus*, Brunner, Rev. Orth. p. 116 (1893) (Burmah).
8. *E. acutecarinatus*, Brunner, Rev. Orth. p. 117, pl. 5, fig. 48 (1893) (Burmah).
9. *E. acutipennis*, Saussure, Rev. Suisse Zool. Vol. 11, p. 78 (1903) (Regiones indicæ).
10. *E. flavipes*, Saussure, idem, p. 79 (1903) (Burmah).
11. *E. birmanicus*, Saussure, ibidem, p. 82 (1903) (Burmah).
12. *E. humberianus*, Saussure, ibidem, p. 83 (1903) (Ceylon).
13. *E. Malcolmii*, Bolivar, Bol. Soc. Esp. Hist. Nat. Vol. 2, p. 302 (1903) (Malacca).

## 3. GENUS TEICHOPHRYS, MORSE & BRUNER

**Teichophrys.** Morse & Bruner, Biol. Centr. Amer. Orth. Vol. 2, p. 20 (1901).

**Characters.** — Body of moderate size, rather slender and apterous; the pronotum short and inconspicuous, scarcely longer than either the meso or metathoracic segments separately, and with a small median carina, the hind and front edges above truncate, slightly notched in the middle. Head short, the eyes only a trifle prominent, about as long as the cheeks below them; vertex gently ascending, bordered by well-defined lateral ridges which terminate anteriorly projecting blunt points that reach

beyond the front edges of the eyes, these points forming also the upper termini of the lateral walls of the frontal costa. There is also on each side at the back edge of the fastigium of the vertex a prominent tubercle, which marks the beginning of the carinæ just referred to. The flattened frontal costa of the face, which is continuous with the fastigium of the vertex, is bordered by rather prominent carinæ that diverge greatly to a point midway between the top and bottom of the eyes and then suddenly converge, so as to leave the costa only about one half or a trifle more of its greatest width, from where they continue down the face parallel, or nearly so, to just below the ocellus, where they again bend abruptly inward and unite, forming a single ridge down the middle of the face almost to the clypeus, where it branches, sending out and downward on each side obliquely a carina that reaches and unites with the lateral carina of the face, as indicated in the accompanying figure. Hind femora shorter than the abdomen, fairly stout, the upper carinæ provided with a number of rather strong spines; metatarsi with both margins denticulate above. Upper valves of the ovipositor more or less serrate, the lower ones provided with two coarse, blunt teeth back of the strongly curved apex. Antennæ normal.

**Geographical distribution of species** — The only known species is recorded from California.  
1. *T. fusiformis*, Morse & Bruner, Biol. Centr. Amer. Orth. Vol. 11, p. 21 (1901) (Lower California).

#### 4. GENUS ADRAPETES, KARSCH

**Adrapetes.** Karsch, Ent. Nachr. Vol. 15, p. 28 (1889); Brunner, Rev. Orth. p. 115 (1893); Burr, Essai Eumast. p. 31 (1899).

**Characters.** — Vertice convexo, fastigio depresso, antrorsum valde producto, costa frontali infra antennas non continuata, supra antennas latissima, inter ocellos autem subito valde coarctata: pedibus longis, gracilibus; femoribus anticis subtus sulcatis, margine externo alto, serrato, dente præapicali instructo; articulo tarsorum posticorum primo elongato, supra sulcato, marginato, marginibus ambobus dentatis. Elytris alisque nullis.

**Geographical distribution of species.** — The unique species occurs in New Guinea.  
1. *A. serraticrus*, Karsch, Ent. Nachr. Vol. 15, p. 29 (1889) (New Guinea).

#### 5. GENUS EUPATRIDES, BRUNNER

**Eupatrides.** Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 230 (1898); Burr, Essai Eumast. p. 32, (1899).

**Mastax.** (partim). Haan. Bijdr. Orth. Ned. p. 164, pl. 22, f. 1 (1843).

**Characters.** — Fastigium verticis dimidia longitudine oculi longius, obtusum. Frons valde elongata. Costa frontalis angusta, sulcata. Pronotum in modum generum præcedentium constructum. Elytra apicem versus latiora, margine apicali profunde emarginato, dense reticulata, obscura. Alæ cycloideæ, hyalinæ, parte antica apice acuminata. Femora haud compressa, antica carina exteriori apice dente vel spinula instructa. Femora postica subtus carina media serrata, in dentem acutum producta, subtus carinis ambobus serrulatis. Tibiæ posticæ superne carina externa spinulis parvis, æque longis, carina interna spinis longioribus inæqualibus numero 12 armatas. Metatarsus posticus superne carina externa 4-spinulosa. Segmentum abdominale ♂ penultimum in margine postico bilobatum, latere in lobos obtusos productum. Lamina supraanalis deflexa, lanceolata, sulcata. Cerci rotundato-incurvi. Lamina subgenitalis ampla, in lobos duos angustos producta, lobis lateralibus titillatorem amplectentibus. Ovipositor gracilis, serrulatus. ♂ ♀.



**Geographical distribution of species.** — The two species known occur in the East Indies.

1. *E. cyclopterus* Haan, Bijdr. Orth. Ned. p. 164, pl. 12, f. 1 (1841) (Borneo).
2. *E. excelsus*, Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 231, fig. 33 (1898) (Batchian).

## 6. GENUS BENNIA, BURR

**Bennia.** Burr, Essai Eumast. p. 32 (1899).

**Mastax** (partim). Walker, Cat. Derm. Salt. Suppl. Vol. 5, p. 88 (1871).

**Characters.** — A genere *Eupatridi* differt alis normalibus, haud cycloideis.

**Geographical distribution of species.** — The two species known occur in Yunnan and Bootang.

1. *B. innotata*, Walker, Cat. Derm. Salt. Suppl. Vol. 5, p. 88 (1871) (Yunnan).
2. *B. Oberthuri*, Bolivar, Bol. Soc. Esp. Hist. Nat. p. 303 (1903) (Maria Basti, British Bootang).

## 3. SUBFAM. GOMPHOMASTACINÆ, BURR

**Gomphomastaces.** Burr, Essai Eumast. p. 33 (1899).

**Characters.** — Vertex obtusus; costa frontalis inter antennis angusta, profunde sulcata, usque ad labrum producta. Antennæ longitudinem corporis attingentes, multiarticulatæ, apice plus minus clavatæ.

### I. GENUS GOMPHOMASTAX, BRUNNER

**Gomphomastax.** Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 232 (1898); Burr, Essai Eumast. p. 33 (1898).

**Parerucius.** Krauss, apud Zubowsky, Ann. Mus. Zool. Acad. Imp. Sc. Petersb. p. 108 (1898).

**Characters.** — Corpus gracile; pronotum breve, subcompressum, medio longitudinaliter carinatum, carinis lateralibus elevatis; elytra et allæ nullæ; pedes graciles; femora antica subtus nec carinata nec dentata; segmentum anale ♂ angustum; lamina supraanalis triangularis, sulcata; cerci subulati; lamina subgenitalis ampla, rotundata.

**Geographical distribution of species.** — North India and Semiretschje in Asiatic Russia; this is the only subfamily of the *Eumastacidae* represented in the Palæarctic Region.

1. *G. antennata*, Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 232, f. 34 (1898) (Kashmir).
2. *G. constricta*, Brunner, idem, p. 233 (Pundjab).
3. *G. Kraussi*, Burr, Essai Eumast. p. 34 (1899) (Central Asia, Semiretschje).
4. *G. opaca*, Krauss apud Zubowsky, Ann. Mus. Zool. Acad. Imp. Sc. Petersb. p. 110 (1898) (Central Asia, Semiretschje).

## 4. SUBFAM. ERUCIINÆ, BURR

**Mastacina** (partim). Karsch, Ent. Nachr. Vol. 25, p. 30 (1889).

**Mastaces** (partim). Brunner, Rev. Orth. p. 115 (1893).

**Erucii.** Burr, Essai Eumast. p. 34 (1899).

**Characters.** — Costa frontalis inter antennis angusta, profunde sulcata; pronotum nunquam foliaceum, deplanatum; antennæ brevissimæ, apice haud clavatæ, femoribus anticis breviores; metatarsus posticus supra in utroque magis spinulosus vel serrulatus.

## TABLE OF GENERA

1. — *Fastigium verticis obtusum vel rotundatum* . . . . .
2. — *Elytra et alæ perfecte explicatæ* . . . . . 1. ERUCIUS, Stal.
- 2.2. — *Elytra et alæ nulla* . . . . . 2. MASTACIDES, Bolivar.
- 1.1. — *Fastigium verticis porrectum*. (*Elytra et alæ dimidium abdominis haud superantia*) . . . . . 3. MNESICLES, Stal.

## I. GENUS ERUCIUS, STÅL

**Erucius.** Stal, Obs. Orth. Bihang Svensk.Vet. Akad. Förh. Handl. 3, n° 4, p. 136; Öfv. Akad. Förh. n° 3, p. 55 (1876); Karsch, Ent. Nachr. Vol. 25, p. 30 (1889); Brunner, Rev. Orth. p. 115 (1893); Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 225 (1898); Burr, Essai Eumast. p. 34 (1899).

**Characters.** — Fastigium verticis depressum, sensim in costam frontalem transiens; costa frontalis inter antennis compressa, sulcata; pronotum carinatum; elytra apicem versus dilatata, margine apicali oblique truncato, remote reticulata et hyalina; alæ hyalinæ; femora gracilia, compressa, antica subtus sulcata, carina exteriori haud dilatata, apice rotundata; tibiæ posticæ superne spinis marginis interioris majoribus; metatarsus posticus superne sulcatus, margine exteriori dorso serrulato; lamina supraanalis ♂ brevis, bilobata; cerci angulo acuto fracti; lamina subgenitalis angustata, titillatorem liberans; ovipositor serrulatus. ♂ ♀.

**Geographical distribution of species.** — Tropical Asia.

1. *E. apicalis* Westwood, Arcana Ent. Vol. 1, p. 100, pl. 26, f. 1 (1841) (Java, Borneo, Sumatra). (*E. agrionides*, Haan is a synonym).
2. *E. vitreus*, Westwood, idem, p. 100, pl. 26, f. 2 (1841) (Sumatra, Borneo, Philipines).
3. *E. dimidiatipes*, Bolivar, Ann. Mus. Stor. Nat. Genova, (2), Vol. 19, p. 81 (1898) (Sumatra).
4. *E. bifasciatus*, Stal, Orth. Philipp. Öfv. Vet. Akad. Förh. n° 10, p. 54 (1877) (Philipines).
5. *E. tenuis*, Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 228 (1898) (Java).
6. *E. javanus*, Burr, Essai Eumast. p. 36 (1899) (Java).
7. *E. bonzo*, Burr, idem, p. 90 (1899) (Siam).
8. *E. pictus*, Saussure, Rev. Suisse Zool. Vol. 11, p. 85 (1903) (Borneo).
9. *E. nebulosus*, Saussure, idem, p. 86 (1903) (Borneo).

## 2. GENUS MNESICLES, STÅL

**Mnesicles.** Stal, Orth. Philipp. Öfv. Vet. Akad. Förh. n° 10, p. 54 (1877); Karsch, Ent. Nachr. 15, p. 27 (1889); Brunner, Rev. Orth. p. 115 (1893); Senck. Naturg. Ges. Bd. 24, Heft 2, p. 228 (1898); Burr, Essai Eumast. p. 36 (1899).

**Characters.** — Fastigium verticis obtusum, vel minime productum, truncatum; costa frontalis compressa, sulcata; frons sublaevis; pronotum medio carinatum; elytra angusta, apice rotundata; alæ cycloideæ; femora crassiora, antica subtus carina exteriori in dentem terminata; tibiæ posticæ in carina exteriori spinulis parvis numero 20-25, in carina interiori numero 14-16 armatæ; metatarsus posticus in carina exteriori uni-vel bi-spinulosus; segmentum abdominale penultimum ♂ valde emarginatum, latere in lobos obtusos productum; lamina supraanalis triangularis, sulcata; cerci breves acute plicati; lamina subgenitalis ampla, profunde incisa, lobis incurvis, acuminatis; ovipositor serrulatus ♂ ♀.

**Geographical distribution of the species.** — The five species known are found in the islands of the Archipelago of the East Indies.

1. *M. modestus*, Stal, Orth. Phil. Öfv. Vet. Akad. Förh. n° 10, p. 54 (1877) (Phil. Islands, Amboina, Halmahera).

2. *M. crassipes*, Karsch, Ent. Nachr. Vol. 15, p. 29 (1889) (Island of Luzon).
3. *M. roseosignatus*, Brunner, Senck. Naturg. Ges. Bd. 24, Heft 2, p. 230, fig. 32 (1898) (North Celebes).
4. *M. strigatus*, Bolivar, Ann. Mus. Stor. Nat. Genova (2), Vol. 19, p. 82 (1898) (Mentawai).
5. ? *M. crenatus*, Haan, Bijdr. Orth. p. 164 (1843) (Borneo).

### 3. GENUS MASTACIDES, BOLIVAR

**Mastacides.** Bolivar, apud Burr. Essai Eumast. [p. 37 (1899)]; Bolivar, Ann. Soc. Ent. France, p. 587 (1902).

**Characters.** — Statura parva. Costa frontalis inter antennis angustissima, sulcata; fastigium verticis nondum minime elevatum; frons reclinata; antennæ breves; oculi magni, globosi globuli. Pronotum parvum, deplanatum, carinula media subtilissima, carinis lateralibus nullis instructum, antice truncatum, postice paulo emarginatum; lobi deflexi angulo antico rotundato, postico rectangulo. Elytra rudimentaria, minima; alæ nullæ; Femora omnia incrassata; tibiæ anticæ et intermediæ apice subtus utrinque spinulis tribus minimis armatæ; femora postica carina discoidali necnon interiori spinulosa; metatarsus posticus in margine externo spinulosus. Abdomen cylindricum, dorso carinatum, apicem versus attenuatum, segmentum ultimum magnum, ampliatus; lamina subgenitalis magna fornicata; lamina supraanalis lobata. ♂ Valvulæ ovipostoris rectæ, marginibus haud serratis, valvulæ superiores haud sinuatae.

**Geographical distribution of species.** — The three known species occur in Southern India.

1. *M. pupæformis*, Bolivar, apud Burr, Essai Eumast. p. 38 (1899) (Southern India).
2. *M. pterolepis*, Bolivar, idem (Southern India).
3. *M. vaginalis*, Saussure, Rev. Suisse Zool. Vol. 11, p. 87 (1903) (Southern India).

### 4. GENUS XANTHOMASTAX, SAUSSURE

**Xanthomastax.** Saussure, Zool. Anzeig. Vol. 26, nos 698-699, p. 414 (1903); Rev. Suisse Zool. Vol. 11, p. 99 (1903).

**Characters.** — Corpus compressum. Caput validum, superne rotundatum. Facies rugulosa. Costa facialis latiuscule sulcata, supra antennis breviter constricta. Vertex inter oculos a supero visus angustus, parallelus, horizontalis, sulcatus. Oculi elliptici, antice per carinam obliquam rectam, postice per carinulas verticis in toto occipite perductis, marginati. Pronotum valde compressum, superne leviter tectiforme, valde carinatum, angulo postico producto; lobi laterales angulo postico subacuto. Elytra gracillima, apice rotundata, colorata, abdomine paulo breviora. Alæ fere cycloideæ, vitreæ. Pedes antici et intermedii brevissimi, femoribus crassis, compressis, margine supero arcuato. Tibiæ crassiusculæ, subtus biserialim multidenticulatæ. Femora postica breviter et crassa, parte apicali gracili, brevi; carinis superis denticulatis. Tibiæ posticæ spinis alternatim inæqualibus armatæ. Metatarsus late sulcatus, inermis, pilosus (vel forte extus 1-2 dentatus). Abdomen cylindricum, gracile, segmentis ultimis 3 tumidis. Segmentum septimum dorsale profunde incisum; octavum utrinque conspicuum, in medio absconditum. Lamina supraanalis lata, planula. Cerci breves, valde arcuati. Segmentum ventrale octavum ♂ convexum, ad superum reflexum, carinatum.

**Geographical distribution of species.** — The species occur in the Northern Celebes and New Guinea.

1. *X. crassipes*, Saussure, Zool. Anzeig. Vol. 26, nos 698-699, p. 414 (1903) (Northern Celebes).
2. *X. furcatus*, Saussure, Rev. Suisse Zool. Vol. 11, p. 101 (1903) (New-Guinea).

This genus is unknown to me; I range it provisionally among the *Erucii*, though de Saussure remarks that it is perhaps nearest to *Eumastax*, though not closely allied to any known genus. Its short and comparatively stout legs distinguish it from its more slender relations. In a later paper (Rev. Suisse Zool. Vol. 11, 1903), de Saussure ranges it among the American forms near *Eumastax*.

## 5. SUBFAM. EPISACTINÆ, BURR

**Episacti.** Burr, Essai Eumast. p. 39 (1899).

**Characters.** — Costa frontalis angusta, profunde sulcata; antennæ femoribus anticis breviores, apice haud clavatæ; metatarsus posticus supra in utroque margine spinulosus vel serrulatus; elytra et alæ nullæ; vertex plus minus acuminatus; species americanæ et malagassæ.

### TABLE OF GENERA

1. — Fastigium verticis cum fronte angulum acutum efficiens;  
lamina subgenitalis ♂ lanceolata.
2. — *Pronotum carinis lateralibus nullis; femora postica genubus  
obsolete denticulatis (Species americana)* . . . . . 1. EPISACTUS, Brunner.
- 2.2. — *Pronotum utrinque undato-vel lobato-carinatum; femora  
postica genubus bispinosis (Species madagassa)* . . . . . 2. MALAGASSA, Saussure.
- 1.1. — Fastigium verticis apice rotundatum; lamina subgenitalis  
♂ brevis, rotundata . . . . . 3. PAREPISACTIS, Giglio-Tos.  
. . . . . 4. GYMNOTETTIX, Morse & Bruner.

These last two genera are only known to me by the descriptions; of the former, only the male is described, and of the latter, only the female. They appear to be very closely allied, and perhaps coincide.

### 1. GENUS EPISACTUS, BRUNNER

**Epeisactus.** Brunner, Rev. Orth. p. 115 (1893).

**Episactus.** Burr, Essai Eumast. p. 39 (1899).

**Characters.** — Apterus. Vertex inter oculos plus minus productus, cum fronte angulum acutum efficiens; frons reclinata; oculi oblongi; pronotum compressum, medio carinatum, carinis lateralibus nullis; elytra et alæ nullæ; pedes graciles, longi; femora postica carina superiori obsolete denticulata; tibiæ posticæ calcaribus terminalibus intus singulo magno, extus binis minimis armatæ; metatarsus posticus hirsutus, spinulosus; abdomen gracile compressum, carinatum; lamina supra-analis margine postico medio profunde rectangulariter excis; lamina subgenitalis magna, elongata, incurva, apice obtusa margine postico (superiori) denticulata; cerci conici, validi, incurvi, apice vix decussati.

**Geographical distribution of species.** — The only described species is from Guatemala.

1. *E. Brunneri*, Burr, Essai Eumast. p. 40 (1899) (Guatemala).

### 2. GENUS MALAGASSA, SAUSSURE

**Malagassa.** Saussure, Zool. Anzeig. Vol. 26, n. 698-699, p. 414 (1903); Rev. Suisse Zool. Vol. 11, p. 88 (1903).

**Characters.** — Corpus apterum. Vertex valde productus, acuminatus. Costa facialis valde sulcata, carinis prominulis, supra antennis valde divergentibus. Processus frontis in medio carinatus. Antennæ filiformes, femoribus anticis breviores. Pronotum ubique rugosum, antice et postice truncatum, margine postico in medio angulatim inciso; dorso planiusculo, carinulato, utrinque undato vel lobato-carinato; lobis lateralibus minus rugosis, angulo postico rectangulo. Pedes graciles. Femora 1 et 2 superne late subsulcata, bicarinulata, apice supra bidentata. Tibiæ subtus biseriatis spinulosæ. Femora postica carinis superioribus remote spinulosis, apice valde mucronatis, carinulis inferis subtiliter granulosis, lobis genicularibus bispinosis. Tibiæ posticæ margine externo spinis inæqualibus alternantibus armatæ. Metatarsi utrinque spinulosi. Abdomen carinatum.

♀ ♀. Segmentum octavum dorsale completum, angulis lateralibus minute productis. Cerci conici. Lamina supra-analis lanceolata, sulcata. Septimum segmentum ventrale elongatum acuminatum. Valvulæ genitales elongatæ; inferæ graciles, arcuatæ.

♂ ♂. Cerci stiliformes. Lamina infragenitalis valde graciliter producta, compressa.

**Geographical distribution of species.** — Madagascar.

1. *M. coniceps*, Saussure, Zool. Anz. Vol. 26, nos 698-699, p. 415; Rev. Suisse Zool. Vol. 11, p. 89 (1903) (Madagascar).

### 3. GENUS PAREPISACTUS, GIGLIO-TOS

**Parepisactus.** Giglio-Tos, Boll. Mus. Zool. Torino, Vol. 13, n° 311, p. 36 (1898); Burr, Essai Eumast. p. 40 (1899).

**Characters.** — Corpus granosum et rugosum; femora antica margine infero spina vel dente praeapicali nulla; tarsorum posteriorum articulus primus supra utroque margine serratus; clypeum faciale angulis infero-lateralibus prominulis. Fastigium capitis ante oculos modice productum, subhorizontale, apice rotundatum, supra medio carinulatum; antennæ breviusculæ, crassiusculæ, 10-articulatæ; oculi ovoidei; pronotum supra granosum, carinula media producta instructum; carinulis lateralibus sinuatis, a sulco postico in lobis deflexis perspicuo, in dorso deleto, interruptis; margine antico truncato, postico medio rotundato, emarginato; mesonotum et metanotum granosa, medio carinulata; abdomen compressum, medio dorso totum carinatum et granosum; pedes longiusculi; femora omnia, praecipue postica, carinis omnibus minute serratis; tibiæ posticæ margine interno spinis majoribus et minoribus alternis armatæ; lamina subgenitalis brevis, subglobosa.

**Geographical distribution of species.** — Tropical America.

1. *P. carinatus*, Giglio-Tos, Boll. Mus. Torino, Vol. 13, n° 311, p. 37 (1898) (Ecuador).
2. *P. saltator*, Saussure, Rev. Suisse Zool. Vol. 11, p. 88 (1903) (Costa Rica, Guatemala).

### 4. GENUS GYMNOTETTIX, MORSE & BRUNER

**Gymnotettix**, Morse & Bruner, Biol. Centr. Amer. Orth. p. 21 (1901).

**Characters.** — Sulcation of the vertex separated by a transverse carina from that of the dorsal carina (*Episactus*), not so separated (*Gymnotettix*). Basal joint of hind tarsi serrate above on both margins (*Gymnotettix*), basal joint of tarsi smooth (*Eumastax*).

Body slender; the pronotum small, truncate in front and slightly emarginate behind, the median carina distinct, linear. Head a little wider than the front edge of the pronotum, the vertex somewhat produced in advance of the eyes, where its lateral walls converge somewhat and continue as the lateral carinae of the frontal costa. The latter about one-half as broad as the vertex between the eyes, deeply sulcate throughout and of nearly uniform width. Eyes less prominent than in *Eumastax*, about three-

fifths as broad as long. Antenne with the basal and second joints less enlarged than in that genus, 11-jointed. Hind femora about equalling the abdomen in length, comparatively heavy; the hind tibiæ irregularly spined — only partially showing the alternation of long and short spines — the basal tarsal joints strongly toothed on both margins above. Ovipositor with the valves blunt, toothless, the lower pair considerably the shorter.

**Geographical distribution of species.** — The only known species occurs in Central America.  
1. *G. occidentalis*, Morse & Bruner, Biol. Cent. Amer. Orth. Vol. 2, p. (1901) (British Honduras).

## 6. SUBFAM. THAUMASTACINÆ, BURR

**Thaumastaces.** Burr, Essai Eumast. p. 85 (1899).

**Characters.** — Statura majore, robustiore; caput magnum, rotundatum; pronotum carinis nullis, sulcis transversis instructum; corpus totum granulosum vel punctatum; elytra et alæ perfecte explicatæ; elytra latiora, obtusa, opaca, confertissime reticulata; alæ elytris breviores; pedes breves crassiusculi; tibiæ anticæ infra utrinque spinulosæ; femora postica valde incrassata, abdomen valde superantia, carina superiore obsolete denticulata; tibiæ posticæ utrinque spinulis 8, calcaribus terminalibus extus binis brevibus, intus binis majoribus armatæ; tarsi elongati, hirsuti.

### 1. GENUS THAUMASTAX, BURR

**Thaumastax** (1). Burr, Essai Eumast. p. 85 (1899).

**Characters.** — Corpus totum granulosum, robustum, magnum; oculi magni, globosi; pronotum sulcis tribus mediis distinctis instructum, sulculo quarto antico obsoleto; lobi deflexi marginibus angulisque rotundatis; abdomen brevissimum, crassum; lamina subgenitalis incurva, subtus deplanata, medio margine posteriori (superiore) in spinam rectam incurvam producta. ♂.

**Geographical distribution of species.** — The unique species occurs in Colombia.  
1. *T. monstrum*. Burr, Essai Eumast. p. 86 (1889) (Colombia).

## 7. SUBFAM. CHININÆ, BURR

**Chinae.** Burr, Essai Eumast. p. 42 (1899).

**Characters.** — Habitus *Eruciinae*; differt metatarso postico inermi, hirsuto tantum. A genere *Eumastaci* differt spinis tiliarum posticarum longitudine inter se æquantibus, nec alternantibus.

This subfamily, is a transition between the *Eruciinae* and the *Eumastacinae*.

### 1. GENUS CHINA, BURR

**China.** Burr, Essai Eumast. p. 42 (1899).

**Mastax** (partim). Walker, Cat. Derm. Salt. Vol. 4, p. 792 (1870).

**Geographical distribution of species.** — The unique species is recorded from Southern China and Siam.

1. *C. mantispoides*, Walker, Cat. Derm. Salt. Vol. 4, p. 792 (1870) (China, Siam).

(1) This name, from the Greek Θαύμα, a wonder, and *Mastax*, should, of course, correctly be formed *Thaumato-mastax*, as has been pointed out to me; it was however, deliberately, that I fused the two words together.

## 2. GENUS BIROELLA, BOLIVAR

**Biroella.** Bolivar, Bol. Soc. Esp. Hist. Nat. p. 304 (1903).

**Characters.** — Statura mediana. Caput ab antico posticoque compressum, costa frontalis inter antennas angustissima, compressa, tota sulcata, sulco versus epistomatem ampliato. Fastigium verticis haud productum, antice rotundato-truncatum, obscure tricarinatum. Antennæ breves, filiformes. Oculi oblongi. Pronotum antice posticeque truncatum, dorso subcylindrico, carina media parum perspicua; lobis deflexis longioribus quam altioribus, angulo postico subproducto, Elytra alæque abbreviata, segmentum tertium abdominis haud superantia. Pedes graciles. Femora antica supra bicarinata. Femora postica valde elongata base recte sinuata, apice breviter tricuspida. Tibiæ anticæ supra subsulcatæ, subtus prope apicem spinosæ. Tibiæ posticæ extus regulariter breviterque spinosæ, intus spinis magnitudine valde diversa irregulariter dispositis armatæ. Tarsi postici articulo primo mutico. Abdomen cylindricum ♂ apice haud inflato, recurvo. Valvulæ ovipositoris elongatæ, denticulatæ.

**Geographical distribution of species.** — The only described species is from New Guinea. 1. *B. dispar*, Bolivar, Bol. Soc. Esp. Hist. Nat. p. 304 (1903) (Sattelberg, Huon Golf, New Guinea).

## 8. SUBFAM. EUMASTACINÆ, BURR

**Mastacina.** Karsch. Ent. Nachr. Vol. 15, p. 30 (1889).

**Mastaces.** Brunner, Rev. Orth. p. 115 (1893).

**Eumastaces.** Burr. Essai Eumast. p. 43 (1899).

**Characters.** — Costa frontalis angusta, profunde sulcata; pronotum deplanatum, nunquam foliaceum; antennæ brevissimæ, haud clavatæ, femoribus anticis breviores; metatarsus posticus supra muticus, interdum hirsutus; pedes graciles, longi; tibiæ anticæ subtus in parte apicali utroque margine spinulosæ; tibiæ posticæ spinis longitudine alternantibus (excepto genere *Morsea*); Species omnes americanæ.

## TABLE OF GENERA

1. Fastigium verticis inter oculos angustissimum, haud productum. (Spinis tiliarum posticarum longitudine alternantibus).
2. *Alæ perfecte explicatæ.*
3. *Elytra hyalina, regulariter reticulata; alæ hyalinæ, haud coloratæ* . . . 1. EUMASTAX, BURR.
- 3-3. *Elytra opaca, colorata, conferte vel irregulariter reticulata. Alæ coloratæ* . . . 2. PARAMASTAX, BURR.
- 2-2. *Corpus apterum* . . . . . 3. SCIRTOMASTAX, SAUSSURE
- 1-1. Fastigium verticis plus minus productum.
2. *Spinæ tiliarum posticarum longitudine alternantibus* . . . . . 4. MASYNTES, KARSCH.
- 2-2. *Spinæ tiliarum posticarum longitudine aequantibus* . . . . . 5. MORSEA, SCUDDER.

## I. GENUS EUMASTAX, BURR

**Mastax.** Perty, Delcct. Anim. p. 122 (1830) et auctores; Karsch, Ent. Nachr. Vol. 15, p. 31 (1889); Brunner, Rev. Orth. p. 115 (1893).

**Eumastax.** Burr, Essai Eumast. p. 43 (1899).

**Characters.** — Species minores; vertex rotundatus, in costam frontalem transiens, costa frontalis inter antennas angustissima; antennæ breves, graciles, apice infuscatæ, basi colorata; oculi

magni, globosi; pronotum parvum, angustum, carinula media subtili instructum, margine postico rotundato, margine antico recto; elytra perfecte explicata, angusta, apice rotundata et ampliata, hyalina, haud conferte reticulata; alæ magnæ, latæ, rotundatæ, hyalinæ; abdomen gracile, breve; pedes longi, graciles; tibiæ anticæ subtus in parte apicali utrinque spinulosæ; tibiæ posticæ spinis marginis interioris longitudine alternantibus; metatarsus posticus inermis, vel hirsutus.

**Geographical distribution of species.** — Tropical America.

1. *E. tenui*, Perty, Del. Anim. Brasil. Vol. 24, p. 123, f. 3 (1830) (= *virescens*, Westw. et *minuta*, Bol.) (Brazil, Ecuador, Peru).
2. *E. vittata*, Burr, Essai Eumast. p. 46 (1899) (Bolivia).
3. *E. Poultoni*, Burr, idem, p. 47 (1899) (Columbia).
4. *E. plebeja*, Gerstæcker, Mitth. Neuvorp. Rügen, Vol. 19-20, p. 89 (1888) (Amazons, Fonteboa).
5. *E. semicæca*, Brunner, Observ. on the Colour of Ins. p. 15, f. 118 (1897) (Upper Amazons).
6. *E. collaris*, Gerstæcker, Mitth. Neuvorp. Rügen, p. 87 (1888) (Peru, Bolivia).
7. *E. surda*, Burr, Essai Eumast. p. 50 (1899) (Chiriqui).
8. *E. tipularia*, Gerstæcker, Mitth. Neuvorp. Rügen, p. 83 (1888) (Peru, Amazons).
9. *E. pardalina*, Burr, Essai Eumast. p. 52 (1899) (Peru).
10. *E. militaris*, Gerstæcker, Mitth. Neuvorp. Rügen, p. 84 (1889) (Amazons).
11. *E. versicolor*, Burr, Essai Eumast. p. 54 (1899) (Paraguay).
12. *E. dentata*, Saussure, Rev. Suisse Zool. Vol. 11, p. 91 (1903) (Costa Rica).

## 2. GENUS PARAMASTAX, BURR

**Paramastax.** Burr, Essai Eumast. p. 54 (1899).

**Mastax.** Auctores.

**Characters.** — A genere præcedente tantum differt elytris coloratis, opacis, area mediastina irregulariter et conferte reticulata; alis coloratis, hyalinis aut opacis.

**Geographical distribution of species.** — Tropical America.

1. *P. nigra*, Scudder, Proc. Boston Soc. Nat. Hist. Vol. 17, p. 266 (1875) (Eastern slope of the Peruvian Andes, Peru, Amazons, Bolivia, Ecuador).
2. *P. gaudens*, Burr, Essai Eumast. p. 56, fig. 8 (1899) (Bolivia).
3. *P. vicina*, Burr, idem, p. 57 (1899) (Bolivia).
4. *P. magna* Giglio-Tos, Boll. Mus. Zool. Torino, Vol. 8, n° 311, p. 38 (1898) (Ecuador, Mexico).
5. *P. lata*, Gerstæcker, Mitth. Neuvorp. Rügen. Vol. 19 et 20, p. 86 (1888) (Amazons).
6. *P. personata*, Bolivar, An. Soc. Esp. Hist. Nat. Vol. 10, p. 480 (1881) (= *imitatrix*, Gerstæcker) (Amazons, Ecuador, Peru, Santiago).
7. *P. brevipennis*, Saussure, Rev. Suisse Zool. Vol. 11, p. 93 (1903) (Central Peru).
8. *P. tenuata*, Saussure, idem, p. 96 (1903) (Brasil).
9. *P. facialis*, Saussure, ibidem, p. 97 (1903) (Sarayacu).

## 3. GENUS SCIRTOMASTAX, SAUSSURE

**Scirtomastax.** Saussure, Zool. Anz. Vol. 16, n°s 698-699, p. 413 (1903), Rev. Suisse Zool. Vol. 11, p. 93 (1903).

**Characters.** — ♀♀ Corpus apterum. Antennæ filiformes, quam femora antica breviores. Vertex rotundatus, haud productus. Oculi ♀ parum tumidi. Pronotum transverse fornicatum, carina dorsali vix ulla, margine postico haud producto, transverse truncato; lobis lateralibus angulo antico longe rotundato, postico acute producto. Pedes antici graciles; tibiis subtus in utroque margine spinulosi. Femora postica gracilia carinulis pilosis, haud dentatis, genibus utrinque dente brevi



armatis. Tibiæ posticæ margine interno spinis longitudine alternantibus armato. Metatarsus nec sulcatus nec denticulatus, piloso-fimbriatus. Abdomen carinatum. Segmentum octavum supra excisum, angulis lateralibus anguste productis. Valvæ genitales modice elongatæ, supra canaliculatæ, denticulatæ; inferæ subtiliter denticulatæ, apice dentatæ. Mares ignoti.

**Geographical distribution of species.** — Tropical America.

1. *S. cordillera*, Saussure, Zool. Anz. Vol. 26, n° 698, p. 414 (1903), Rev. Zool. Suisse. Vol. 11, p. 93 (1903) (Equator).
2. *S. surinama*, Burr, Essai Eumast. p. 52, pl. 8, fig. 6, ♂ and ♀ (1899) (Surinam).
3. *S. Rosenbergi*, Burr, idem, p. 52 (1899) (Colombia).

N. B. — The above diagnosis is copied direct from de Saussure, whose type I have not seen; the two apterous forms, *E. surinama* and *E. Rosenbergi* appear to fall in this genus.

#### 4. GENUS MASYNTES, KARSCH

**Masyntes.** Karsch, Ent. Nachr. Vol. 15, pp. 31 and 26 (1889); Brunner, Rev. Orth. p. 115 (1893); Burr, Essai Eumast. p. 59 (1899).

**Mastax.** Scudder, Bolivar, Haan, Stal et auctores, nec Perty.

**Characters.** — Vertex valde convexus; fastigium inter oculos valde productum, apice bifidum emarginatum, vel rotundatum; frons valde reclinata, costa frontali percurrenti, latius sulcata, marginibus infra ocellum non elevatis inter oculos subcontiguis. Pedes graciles; femora postica carinis dorsalibus vix serrulatis, vel inermibus; tibiæ posticæ spinis marginis internis magnitudine alternantibus armatæ. Elytra et alæ perfecte explicatæ, vel elytra rudimentaria, alis nullis, vel totum apterum.

**Geographical distribution of species.** — Cuba, Paraguay, Brazil.

1. *M. Gundlachi*, Scudder, Proc. Boston Soc. Nat. Hist. Vol. 17, p. 266 (1874-75) (Cuba).
2. *M. Borellii*, Giglio-Tos, Boll. Mus. Zool. Torino, Vol. 12, n° 302, p. 17 (1898) (Paraguay).
3. *M. tigris*, Burr, Essai Eumast. p. 62, fig. 11 (1899) (Paraguay).
4. *M. saurus*, Burr, idem, p. 63 (1899) (Brazil).

#### 5. GENUS MORSEA, SCUDDER

**Morsea.** Scudder, Psyche, Vol. 8, p. 179, n° 262 (1898).

**Characters.** — *Masynti* Karsch vicinum genus; differt capite plus appresso, vertice minus convexo, fastigio late convexo, nec sulcato, nec latere marginato, apice rotundato neque emarginato. carinis pronoti minus conspicuis, lobis deflexis angulo postico rectangulo, tibiæ posticarum spinis inter se æque longis, neque longitudine alternantibus.

**Geographical distribution of species.** — The only known species occurs in California.

1. *M. californica*, Scudder, Psyche, Vol. 8, n° 262, p. 179 (1898) (California).

### 9. SUBFAM. THERICLEINAE, BURR

**Thericleis.** Burr, Essai Eumast. p. 64 (1899).

**Characters.** — Costa frontalis angusta, profunde sulcata; fastigium verticis productum, cum fronte angulum acutum efficiens, vel rotundatum, in costam frontalem transiens; pronotum nunquam foliaceum, deplanatum vel subcompressum, medio carinatum; antennæ brevissimæ, femoribus anticis

breviores, haud clavatae; metatarsus posticus supra muticus, interdum hirsutus; pedes breves, haud graciles; tibiae anticae inermes, vel hirsutae. Species africanae et madagassae.

## TABLE OF GENERA

1. — Fastigium verticis valde productum, cum fronte angulum acutum efficiens. (Genus *Apteropeodes*, Bolivar, fastigium verticis a latere visum subangulatum in divisionem i. i. locandum.)
2. — *Statura gracili; pronotum postice excisum* . . . . . 1. PENICHROTES, Karsch.
- 2.2. — *Statura minus gracili; pronotum postice truncatum.*
3. — *Alae et elytra perfecte explicata* . . . . . 2. CYMATOPSYGMA, Karsch.
- 3.3. — *Elytra et alae nullae.* . . . . . 3. PSEUDOTHERICLES, Burr.
- 1.1. — Fastigium verticis haud productum, in costam frontalem rotundato transiens.
2. — *Femora antica superne angusta et profunde sulcata. Species apterae. Femora postica carina discoidali tantum denticulata.*
3. — *Pronotum postice emarginatum* . . . . . 4. SYMBELLIA, Burr.
- 3.3. — *Pronotum postice truncatum.*
4. — *Vertex inter oculos angustissimus, carinulis contiguus* . . . . . 5. THERICLES, Stal.
- 4.4. — *Vertex inter oculos minus angustus, carinulis distantibus* . . . . . 6. PARATHERICLES, Burr.
- 2.2. — *Femora antica superne haud sulcata. Elytra et alae abbreviatæ; femora postica carinis 3 dorsalibus denticulatis.*
3. — *Femora antica compressa, carinis 4 instructa.*
4. — *Vertex horizontaliter productus* . . . . . 7. MACROMASTAX, Karsch.
- 4.4. — *Vertex ascendens* . . . . . 8. PEODEDES, Karsch.
- 3.3. — *Femora antica carina media unica elevata.*
4. — *Alae et elytra plus minusve explicata* . . . . . 9. EUSCHMIDTIA, Karsch.
- 4.4. — *Alae et elytra nullae* . . . . . 10. APTEROPEODES, Bolivar.

## I. GENUS PENICHROTES, KARSCH

**Penichrotetes.** Karsch, Ent. Nachr. Vol. 15, p. 32 (1889); Brunner, Rev. Orth. p. 116 (1893); Burr, Essai Eum. p. 64 (1899).

**Characters.** — Gracilis, apterus; vertex inter oculos utrinque carinatus; fastigium concavum, valde productum, apice bifidum; frons valde reclinata, costa frontali percurrente, sulcata, infra ocellum paullo ampliata, marginibus non elevatis, inter ocellos subcontiguus; pronotum dorso carinatum, margine postico medio exciso, lobi deflexi longiores quam latiores, angulo antico rotundato, postico acutangulo. Pedes graciles, antici et intermedii nec sulcati nec carinati, inermes. Femora postica carinas 3 superioribus denticulatis; abdomen gracile, constrictum, medio carinatum; cerci longi, graciles, incurvi.

**Geographical distribution of species.** — Tropical Africa and Madagascar.

1. *P. nudata*, Karsch, Ent. Nachr. Vol. 15, p. 32 (1889) (South Central Madagascar).
2. *P. leptotes*, Brancsik, Jahrb. Ver. Trens. Comit. p. 186, Tab. 12, fig. 1, a-d, p. 256 (1892) (Nossi-Bé).
3. *P. brevivalvatus*, Karsch, Stett. Ent. Zeit. p. 246 (1896) (East Africa).
4. *P. Brunneri*, Burr, Essai Eumast. p. 66, fig. 12 (1899) (East Africa).

## 2. GENUS CYMATOPSYGMA, KARSCH

**Cymatopsygma.** Karsch, Stett. Ent. Zeit. p. 247 (1896); Burr, Essai Eumast. p. 67 (1899).

**Characters.** — Fastigium verticis acute productum; costa frontalis angusta, tota sulcata; pronotum paullo compressum, dorso medio carinatum, basi rotundatum; elytra explicata, longa, femora postica superantia; alæ magnæ, *Eumastacidarum* typicæ; pedes graciles, compressi, femoribus anticis margine inferiore interno mutico, posticis carina dorsali media grosse serrato-dentata, interna et externa sublævibus; tibiæ posticæ curvatæ, superne sulcatæ et fere usque ad basin spinosæ; tarsorum segmentum primum superne sulcatum, læve.

**Geographical distribution of species.** — The only known species is from East Africa.  
1. *C. flabelliferum*, Karsch, Stett. Ent. Zeit. p. 247, fig. 1 (1896) (East Africa).

## 3. GENUS PSEUDOTHERICLES, BURR

**Pseudothericles.** Burr, Essai Eumast. p. 68 (1899).

**Thericles.** Stal (partim.) Griffini.

**Characters.** — Aptera. Vertex inter oculos in fastigium triangulare valde productus, subtus compressus et bicarinatus; frons reclinata; pronotum antice et postice subrectum, tectiforme, medio carinatum, carinis lateralibus subnullis vel obsoletis instructum; lobi deflexi altiores quam latiores, antice rotundati postice subsinuati; elytra et alæ nullæ; pedes graciles; femora antica leviter sulcata; tibiæ anticæ haud spinulosæ; femora postica tantum carina superiore serrulata, lobis genicularibus acuminatis; tibiæ posticæ spinulis margine externo minoribus, interno majoribus armatæ; metatarsus posticus inermis, hirsutus; abdomen compressum, medio carinatum; valvulæ ovipositoris breves, serrulatæ; mas incognitus.

**Geographical distribution of species.** — Tropical Africa.

1. *P. compressifrons*, Stal, Obs. Orth. Vol. 1, p. 36 (1875) (Damara).
2. *P. Bolivari*, Burr, Essai Eumast. p. 69, fig. 13 (1899) (Caconda, Anchieta).
3. *P. jallæ*, Griffini, Boll. Mus. Zool. Torino, Vol. 12, n° 290, p. 7, ♀ (1897) (Buluwayo).

## 4. GENUS SYMBELLIA, BURR

**Symbellia.** Burr, Essai Eumast. p. 72 (1899).

**Characters.** — Statura minore; corpus apterum; vertex inter oculos bicarinatum, carinis elevatis, antice productis inter oculos, postice valde divergentibus; antennæ brevissimæ; pronotum antice quam postice emarginatum; pedes carinati; femora antica leviter sulcata; femora postica carinis spinulosis.

**Geographical distribution of species.** — Africa and Madagascar.

1. *S. biplogiata*, Bolivar, apud Burr, Essai Eumast. p. 72 (Asmara).
2. *S. Karschi*, Burr, Essai Eumast. p. 73, fig. 14 (Nossi Bé).

## 5. GENUS THERICLES, STÅL

**Thericles.** Stal, Obs. Orth. Vol. 2, p. 36 (1875); id. Öfv. Vet. Akad. Förr. p. 54 (1876); Karsch, Ent. Nachr. Vol. 15, p. 33 (1889); Brunner, Rev. Orth. p. 116 (1893); Burr, Essai Eumast. p. 74 (1899).

**Characters.** — Corpus apterum; fastigium verticis compressum, a superno visum inter oculos

prominulum, carinatum, carinulis elevatis, inter oculos fere vel omnino contiguus; vertex inter oculos angustissimus, carinulis per frontem ad clypeum percurrentibus; oculi magni, prominuli; antennæ breves, plus minus incrassatæ; frons leviter reclinata, plus minus deplanata; pronotum subtectiforme, carina media instructum, carinis lateralibus nullis, marginibus antico et postico subrectis; lobi deflexi altiores quam latiores; pedes mediocri; femora antica supra sulcata; tibiæ anticæ subtus haud spinulosæ; femora postica incrassata, tantum carina discoidali superiore denticulata, lobis genicularibus acuminatis; tibiæ posticæ sinuatæ, pubescentes, spinis multis utroque margine ad apice fere usque ad basin armatæ, magnitudine haud alternantibus; tarsi hirsuti, inermes; abdomen dorso carinatum, segmento ultimo sæpe incurvo; cerci breves; valvulæ ovipositoris breves.

**Geographical distribution of species.** — All the species occur in tropical Africa.

1. *T. obtusifrons*, Stal, Obs. Orth. Vol. 1, p. 36 (1875) (Damara).
2. *T. puberulus*, Stal, Öfv. Vet. Akad. Förh. p. 56 (1876) (Damara).
3. *T. zebra*, Gerstæcker, Mitth. Neuvorp. Rügen. Vol. 19 & 20, p. 91 (1888) (Cameroons, Gaboon).
4. *T. carinifrons*, Karsch, Ent. Nachr. Vol. 15, p. 33 (1889) (East Africa).
5. *T. gnu*, Karsch, Stett. Ent. Zeit. p. 248 (1896) (East Africa).
6. *T. vacca*, Karsch, idem, p. 248 (1896) (West Africa).
7. *T. quagga*, Karsch, Ins. Bergsch. Adeli. Abth. Vol. 1, p. 116 (1893) (West Africa, Togo).

## 6. GENUS PARATHERICLES, BURR

**Parathericles.** Burr, Essai Eumast. p. 79 (1899).

**Characters.** — *Thericlei* vicinum genus; differt fastigio inter oculos haud producto, carunalis elevatis inter oculos valde distantibus, ad clypeum convergentibus, vertice inter oculos lato.

**Geographical distribution of species.** — The Island of San Thomé (West Africa).

1. *P. elephantulus*, Burr, Essai Eumast. p. 80, f. 17 & 17a (1899) (San Thomé).

## 7. GENUS MACROMASTAX, KARSCH

**Macromastax.** Karsch, Ent. Nachr. Vol. 15, p. 34 & 27 (1889); Brunner, Rev. Orth. p. 116 (1893); Burr, Essai Eumast. p. 80 (1899).

**Characters.** — Vertice minus ascendente, convexo, fastigio angustato, carinato, carinis curvatis, ante oculos parum prominulis, fronte reclinata, costa frontali percurrente, sulcata, marginibus minus elevatis; pronoto dorso medio carinato, margine postico inciso, lobis lateralibus parum compressis, margine externo subrecto, angulis antico et postico rotundatis, postico non producto; pedes graciles, femora antica supra carinata; postica carinis dorsalibus omnibus dentatis, media apice in dentem brevem producta; elytra abbreviata, lobiformia, cornea, grossius et profundius areolata, marginem posticum segmenti primi abdominis non attingentia, paullo longiores quam latiores ♀. ♂ ignotus.

**Geographical distribution of species.** — Madagascar.

1. *M. infernalis*, Karsch, Ent. Nachr. Vol. 15, p. 27 (1889) (South Central Madagascar).

## 8. GENUS PEOEDES, KARSCH

**Peoedes.** Karsch, Ent. Nachr. Vol. 15, p. 34 (1889); Brunner, Rev. Orth. p. 116 (1893); Burr, Essai Eumast. p. 81 (1899).

**Characters** — Vertex valde ascendens; fastigium antrorsum valde angustatum, utrinque carinatum, carinis in margines elevatos costæ frontalis rotundatim continuatis; costa frontalis percurrentis,

sulcata, marginibus elevatis; pronotum haud compressum, carina media dorsali instructum, margine postico medio profunde exciso; lobi deflexi longiores quam altiores, angulo antico rotundato, postico acutangulo; pedes graciles, femora antica plus minus compressa, pluricarinata; femora postica abdomen superantia, carinis dorsalibus denticulatis; tarsi inermes; tibiæ tarsique hirsuti; elytra et alæ valde abbreviatæ, illa regulariter reticulata; abdomen dorso medio carinatum, maris apice valde incrassatum, segmentum anale margine postico corniculis duobus longis unciformibus antrorsum directis armatum; valvulæ ovipositoris longæ, graciles, serratæ.

**Geographical distribution of species.** — Madagascar and the Seychelles.

1. *P. appendiculatus*, Karsch, Ent. Nachr. Vol. 15, p. 35 (1889) (South Central Madagascar).
2. *P. cruciformis*, Bolivar, Ann. Soc. Ent. Fr. Vol. 64, p. 376 (1895) (Seychelles Islands, Mahé).

## 9. GENUS EUSCHMIDTIA, KARSCH

**Euschmidtia.** Karsch, Ent. Nachr. Bd 15, p. 27 (1889); Brunner, Rev. Orth. p. 116 (1893); Burr, Essai Eumast, p. 83 (1899); Saussure.

**Characters.** — Vertex minus ascendens; fastigium antrorsum angustatum, utrinque carinatum, carinis in margines elevatos costæ frontalis rotundatim continuatis; costa frontalis percurrens, sulcata, marginibus parum elevatis; frons valde reclinata; pronotum minus compressum, vix constrictum, carina percurrente dorsali medio marginis postici profunde excisum, lobis lateralibus margine externo flexuoso, angulo antico rotundato, postico acutangulariter producto. Pedes crassiores, femoribus anticis lateribus valde convexis, supra carina unica instructis, posticis abdominis apicem subattingentibus, ♂ paullo superantibus, carinis dorsalibus tribus omnibus dentatis; elytra alæque abbreviatæ; elytra angusta, plus duplo longiora quam latiora, membranacea, regulariter et conferte reticulata; abdomen dorso medio carinatum, ♂ apice valde incrassatum; lamina supraanalis et subgenitalis mucronatæ.

**Geographical distribution of species.** — East Africa and Madagascar.

1. *E. sansibarica*, Karsch, Ent. Nachr. Bd. 15, p. 27 (1889) (Zanzibar, Adeli).
2. *E. guttatifrons*, Burr, Essai Eumast. p. 84 (1889) (East Africa).
3. *E. hova*, Saussure, Rev. Suisse Zool. Vol. 11, p. 104 (1903) (Madagascar).
4. *E. Finoti*, Saussure, idem, p. 106 (1903) (Madagascar).
5. *E. lobipennis*, Saussure, ibidem, p. 108 (1903) (Madagascar).
6. *E. versicolor*, Saussure, ibidem, p. 109 (1903) (Madagascar).
7. *E. sakalava*, Saussure, ibidem, p. 107 (1903) (Madagascar).
8. *E. parvipennis*, Saussure, ibidem, p. 108 (1903) (Madagascar).

## 10. GENUS APTEROPEODES, BOLIVAR

**Apteropeodes.** Bolivar, Bol. Soc. Esp. Hist. Nat. p. 305 (1903).

**Characters.** — Corpus elongatum, fusiforme, apterum. Vertex valde ascendens, fastigium parum supra oculos elevatum, profunde sulcatum, bifidum, carinis in margines costæ frontalis angulatim continuatis. Costa frontalis percurrens sed valde depressa, sulcata, marginibus incrassatis inter oculos tantum compressis, et apicem versus sensim divergentibus. Antennæ longiusculæ, articulis basalibus funiculi transversis, intermediis globosis, cæteris cylindricis; articulo ultimo acuto. Pronotum haud compressum, dorso obtusissime tectiformi, medio carinulato, margine antico obtuse, postico sensim sinuato, lobis deflexis multo longioribus quam altioribus, retrorsum ampliatis, angulo antico rotundato, postico producto, acutangulo. Pedes graciles. Femora antica parum compressa, externe planata supra carina externa acutiuscula, interna suboblitterata. Femora

postica elongata, carinis tribus dorsalibus denticulatis, apice trispinosa, lobis genicularibus spina parva armatis. Tibiæ anticæ subtus apice tantum intus extusque trispinosæ. Tibiæ posticæ longiusculæ spinis margine externa minoribus, spinis margine interno haud alternantibus. Tarsi hirsuti, inermes. Abdomen haud carinatum. Segmentum dorsale secundum medio margine postico grosse inflato.

**Geographical distribution of species.** — One species found in Madagascar.

1. *A. nigroplagiatus*, Bolivar, Bol. Soc. Esp. Hist. Nat. p. 306 (1903) (Madagascar).

## 10. SUBFAM. PSEDNURINÆ, NOV.

### 1. GENUS PSEDNURA, NOV. GEN.

**Truxalis.** Erichson, Arch. Naturg. Vol. 8, p. 250 (1842); (partim) vel n. g. ?; Walker, Cat. Derm. Salt. Vol. 3, p. 596 (1870).

**Mesops.** Erichson, idem; (partim) Walker, ibidem, p. 501 (1870).

**Characters.** — Corpus apterum, gracillimum. Fastigium verticis horizontaliter productum, oculis paullo brevius, vel æque longum, lateribus haud lamellatis, rodundato-acuminatum, medio carinulatis; foveolæ nullæ; frons valdissime reclinata, fere horizontalis, sinuata, costa angusta et profunde sulcata; oculi prominuli, oblongi; antennæ breves, triquetræ, marginibus tribus, serratis; pronotum elongatum, carinis nullis, antice rotundatum, postice excisum; lobi laterales valde longiores quam latiores, antice rotundati; meso- et metanotum medio carinata, elongata; lobi metasternales divergentes; elytra et alæ nulla; pedes breves; pedes intermedi ab anticis quam a posticis valde remotiores; femora postica carinulata, inermia, gracilia, brevia, abdomen haud superantia, lobis genicularibus, acuminatis; tibiæ breves, anticæ et intermediæ apicem versus subtus utrinque spinulosæ; postice supra in utroque margine spinulis minimis multis armatæ; tarsorum ungues breves, pulvillo maximo quadrato instructi; abdomen gracillimum, dorso obsolete carinato; lamina supraanalis ♂ brevis, triangularis; cerci ♂, breves, validi, incurvi, apice bimucronati; lamina subgenitalis ♂ magna, cucullata, apice valvo longissimo, lateribus valde reflexis, gracillimo armata; valvulæ ovipositoris magnæ, superiores longæ, validæ, inferiores graciliores apice valde mucronati.

(Color in speciminibus dessicatis fusco-niger; teste Erichson, in vivis læte viridis, albo- et testaceovittatus).

**Geographical distribution of species.** — Australia and Tasmania.

1. *P. viatica*, Erichson, Arch. Naturg. Vol. 8, p. 250 (1842) (Tasmania, Australia).

2. *P. pedestris*, Erichson, idem, p. 250, pl. 5, fig. 10, 10a (1842) (Tasmania, Australia, Samoa).

#### TABLE OF SPECIES

- |                                                                                                                                 |                         |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 1. <i>Statura gracillima</i> ; thorax longitudinaliter striatus, carinis distinctis; genubus posticis haud infuscatis . . . . . | 1. VIATICA, Erichson.   |
| 1.1. <i>Statura majore, robustiori</i> ; thorax lavis, carinis nullis; genubus posticis nigris . . . . .                        | 2. PEDESTRIS, Erichson. |

## 11. SUBFAM. MIRACULINÆ, BOLIVAR

This subfamily recently established by Bolivar, is distinguished by the curious form of the head the disposition of the antennæ and the appendices of the abdomen.

## I. GENUS MIRACULUM, BOLIVAR

**Miraculum.** Bolivar, Bol. Soc. Esp. Hist. Nat. Vol. 3, p. 306 (1903).

**Characters.** — Corpus gracile, apterum. Fastigium verticis valde productum apice bifidum corniculis duobus divergentibus terminatum, superne tricarinatum antice compressum. Frons a latere visa sinuata, costa frontalis anguste sulcata ante ocellum abbreviata inter antennis marginibus contiguus deinde divergentibus. Oculi rotundati, globosi. Occiput pone oculos ruga obliqua. Antennæ elongatæ, subtriquetræ, femoribus anterioribus longiores, pone medium sulcatæ, articulis elongatis valde inæqualibus plurimis apice dilatatis; articulus primus secundo haud duplo longior. Pronotum antice truncatum postice obtuse sinuatum, carina media antice posticeque compresso-elevata; lobis deflexis elongatis angulis rotundatis. Femora antica supra sulcata, carinis apice spina armatis. Femora postica dimidio apicali gracillima, carinis tribus dorsalibus multispinosis, carina superiore apice compresso-elevata, acute producta, lobi geniculares spina armati. Tibiæ anticæ supra sulcatæ, carina superiore interna compressiuscula, subtus pone medium biserialim spinosa. Tibiæ posticæ multipinosæ, spinis internis majoribus, basalibus latis, compressis. Articulus primus tarsorum posteriorum margine externo spinulosus. Abdomen dorso carina media prope marginem posticum segmentorum compresso-producta. Segmentum tertium lobis magnis foliaceis lanceolatis, retrorsum productis, munitum. Segmentum sextum tuberculo magno fungiformi erecto armatum. Segmentum septimum medio breviter carinatum. Segmentum octavum incisum. Lamina supraanalis magna, trigona, basi carina angulata. Cerci erecti, cylindrici, apice compressi, deflexi. Lamina infragenitalis medio lobo Augusto, elongato, concavo, marginato, apice rotundato, armata.

**Geographical distribution of species.** — One species from Madagascar.

1. *M. mirificum*, Bolivar, Bol. Soc. Esp. Hist. Nat. p. 307 (1903) (Tananarive, Madagascar).

## EXPLANATION OF THE PLATE

- Fig. 1. *Plagiotriptus hippiscus*, Gerstæcker.  
 — 2. *Thaumastax monstrum*, Burr ♂.  
 — 3. *Eumastax vittata*, Burr ♂.  
 — 4. *Eumastax sonicæca*, Brunner ♀.  
 — 5. *Eumastax tipularia*, Gerstæcker ♂.  
 — 6. *Masyntes versicolor*, Burr ♂.  
 — 7. *Masyntes tigris*, Burr ♂.  
 — 8. *Thericles obtusifrons*, Stal ♀.  
 — 9. *Thericles zebra*, Gerstæcker ♀.  
 — 10. *Miraculum mirificum*, Bolivar ♂.

The figures are by Mr. E. H. J. SCHUSTER and by Mr. Ignacio BOLIVAR.